# SOME THINGS YOU OUGHT TO KNOW

This booklet contains a small selection of answers to questions taken from recent issues of the Family Herald and Weekly Star, of Montreal, and shows the wide variety of subjects dealt with in the columns of that great family and agricultural paper. The answers to questions are only one of the many valuable features which place the Family Herald and Weekly Star far ahead of all other papers, and which have gained for it the wide popularity it now enjoys.

# SOME THINGS YOU OUGHT TO KNOW.

### Laying a Cement-Concrete Floor.

C. E.—In building a concrete floor, get grades all properly fixed. Cover the ground with one or more inches of sand or gravel, well rammed, before putting down concrete. Cover this with three inches of rough concrete, gauged six of gravel to one of natural rock cement, or eight of gravel to one of Portland cement. Ram this solid, and put on a finishing coat, one inch in thickness, of two parts clean, coarse, sharp sand, or fine gravel, to one part of cement, which is also firmly rammed while the lower concrete is still soft. The work can be best done by setting a 2 x 4 scantling on edge, commencing at one end of the building, about 3 feet from the wall, holding the scantling in place by two iron or wooden pins. Ram the rough concrete approximately level within an inch of the top of the scantling. Then spread on fine concrete, so that when thoroughly rammed it will be level with top of scantling. Trowel the surface true to grade. Now move along the scantling another three feet, and repeat the process until the floors are finished. It is absolutely ne-

cessary that an iron rammer should be used, so that all concrete, both upper and lower, is thoroughly rammed. Concrete for floors should be thoroughly mixed while dry and not be made too wet, but should be only sufficiently moist to ram well and to work up to a good smooth finish. In horse stable floors the utmost care should be taken to have all concrete well rammed.

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## Estimating Weight of Cattle.

M.C.C.—There are many rules for estimating the weight of cattle by measurement, but one of the authorities on the subject says that "There is no rule that comes nearer than good guessing," and that no two animals will weigh alike according to measurement." The same authority further remarks that a rule, as good as any, is to find the superficial feet by multiplying the girth, just behind the shoulder-blade, by the length from the fore part of the shoulder-blade to the root of the tail. Thus an ox girthing seven feet nine inches, and measuring six feet in length, would contain seven and three-fourths times six or 46 1-2 superficial feet. For cattle, grass fed, the following is given as the weight per superficial foot:

Girth less than 3 feet.. .... 11 pounds.
Girth 3 to 5 feet.. .. .. .. 16 pounds.
Girth 5 to 7 feet .. .... .. 23 pounds.
Girth 7 to 9 feet .. .. .. .. 31 pounds.

Thus the steer, as per above measurements, should weigh 46.50 by 31, or 1,441 pounds, gross. Under this rule it is usual to deduct one pound in twenty on half-fatted cattle, from fif-

teen to twenty pounds on a cow having had calves, and if not fat an equal amount. The author of this rule suggests its use only when the scale is wanting, as the scale is the only true standard.

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## A Self-Sucking Cow.

R. P.—What preventive could I use on a cow that sucks herself?

Ans.—There are several methods of dealing with a cow that takes her own milk. One good plan is to place a leather halter having a wide nose band on her head. This band should be studded with sharp nails or tacks driven through from the inside, and having another strap sewed on over the heads of the nails to hold them in position. When the cow attempts to grasp her teat with her mouth, she will prick her flank, udder, or leg and defer the effort.

Another plan is to put a surcingle around the cow and a halter on her head and join the two by means of a strong piece of wood about four feet long, passing between the fore legs, allowing the piece of wood a few inches of play at the halter end.

Still another plan is to place a ring in the cow's nose similar to a bull ring and hang two other rings in it. When the cow attempts to grasp her teat the rings will come in the way and defeat her in her object.

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## Pitch of a Roof.

L.D.—By the "pitch" of a roof is meant the relation which the height of

the ridge above the level of the roof-plates bears to the span, or the distance between the studs on which the roof rests.

The length of rafters for the most common pitches can be found as follows, from any given span:

If 1-4 pitch, multiply span by .559, or 7-12 nearly.

If 1-3 pitch, multiply span by .6, or 3-5 nearly.

If 3-8 pitch, multiply span by .625, or 5-8 nearly.

If 1-2 pitch, multiply span by .71, or 7-10 nearly.

If 5-8 pitch, multiply span by .8, or 4-5 nearly.

If full pitch, multiply span by 1.12, or 1 1-8 nearly.

To lengths thus obtained must be added amount of projection of rafters at the eaves.

As rafters must be purchased of even lengths, a few inches more or less on their lengths will make a difference to the pitch so slight that it cannot be detected by the eye.

Example — To determine the length of rafters for a roof constructed one-half pitch, with a span of 24 feet—24 multiplied by .71 equals 17.04; or, practically, just 17 feet. A projection of one foot for eaves makes the length to be purchased 18 feet.

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## A Cheap Roofing Paint.

M. L. C.—The cheapest roofing paint is red iron oxide with boiled linseed oil for the first coat, finished with a second coat of raw oil. This is a dark brown colour, and the most durable of

all kinds of paint, as the oil and the iron oxide make a chemical combination which is absorbed by the wood or unites with a metal roof. The quantity needed is based on the fact that one gallon of the thin first coat will cover four hundred square feet, and the second heavier coat will require a gallon for two hundred and fifty square feet. If the roof is of shingles, it is desirable to paint these on both sides before they are laid on the roof; they will last twice as long as if painted only on one side after the roof is laid. A quick way of painting the shingles is to dip them in the mixed paint, setting them in a trough to drain, thus saving the excess of paint that is not absorbed by the wood.

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## Measuring Logs.

W. C.—The following is the Doyle Rule for calculating the number of board feet in a saw log: Deduct 4 inches from the diameter of the log as allowance for slab; square one-quarter of the remainder and multiply the result by the length of the log in feet. The result will be the quantity in square feet of one inch lumber contained in the log.

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## Rust Preventives.

H. H. C.—To protect metals from rusting, that is oxidation, it is necessary to exclude air and moisture from the actual metallic surface. Polished tools are usually kept in wrappings of oiled cloth and brown paper, and thus protected, they will keep free of rust for a long time. When the metals are exposed, as in the case of bridges and other structures, it becomes necessary to protect them by means of permanent dressing or paint. For this purpose the oxide of iron paint is one of the best preparations. It is made by simply grinding the red oxide of iron to a fine powder and mixing it with boiled linseed oil to the consistency of ordinary paint, when it is applied in the usual way. Another preparation is made in this way: Rub 1 ounce of graphite to a fine powder, add 4¼ ounces of sulphate of lead, 1 ounce of sulphate of zinc, and 1 pound of linseed oil varnish; heat the whole to the boiling point and stir thoroughly. This paint can be used for all metallic articles exposed to the action of the weather.

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## Building An Ice House.

E. N.—How should I go about building an ice house?

Ans.—The first thing in building an ice house is to have good drainage. Have it so there can be no circulation of air through the ice, as that melts it more than anything else. It need not be a costly building to be a good one. It is all right built out of common, rough lumber.

To furnish ice for a family and to run a refrigerator, etc., one about 10 x 12 feet with eight feet posts, will be large enough. In building it, put up a regular frame out of six-inch lumber, using 3 x 6 lumber for girders, put in flatwise so as to be even with the sill and plate. Double board both inside and out with boards running up and down, taking pains to break joints well so as to have it tight. Let the inside boarding run from the top of the plate clear to the ground.

Set the building where there will be no surface water, or grade up first so as to turn the water all away. To keep the air out, have the door in one end where the sun will strike it as little as possible. The door should fit as tight as possible on the outside and there should be short boards cut to fit inside to be put in as the house is filled. Put a window in each gable for the hot air to pass out and to keep the roof cool. For a floor lay sticks on the ground to lay planks on. The sticks will hold them up a couple of inches to let the water soak away. Put on six inches of sawdust, where that is used, and the same around the sides, tramping it in well, and about a foot of sawdust on top. Never fill the partitions with sawdust, as that would soon rot the building. Almost any one can build a house like this, and sometimes one corner of a shed can be partitioned off after the same plan, and answer just as well.

Ice can be kept almost anywhere, but it pays better to have a good place, as one does not have to put up so much. The use of paper in the boarding on

both sides would be recommended by almost all, but some persons hardly consider it necessary.

## Amount of Barbed Wire for Fence.

J. McC., N.B.—The following table gives the estimated number of pounds of barbed wire required to fence space or distances mentioned, with one, two or three lines of wire, based upon each pound of wire measuring one rod (16 1-2 feet):

| | 1 line. lbs. | 2 lines. lbs. | 3 lines. lbs. |
|---|---|---|---|
| 1 sq. acre.. .. | 50 2-3 | 101 1-3 | 152 |
| 1 side of sq. acre.. .. .. | 12 2-3 | 25 1-3 | 38 |
| 1 sq. half-acre | 36 | 72 | 108 |
| 1 sq. mile....1280 | | 2560 | 3840 |
| 1 side of sq. mile.. .. .. | 320 | 640 | 960 |
| 1 rod .. .. .. | 1 | 2 | 3 |
| 100 rods .. .. | 100 | 200 | 300 |
| 100 feet. . | 6 1-16 | 12 1-8 | 18 3-16 |

## Treatment for Smut in Wheat.

R. H., Algoma.—How can seed wheat be treated to prevent smut ?

Ans.—Bluestone and formalin are the two principal materials used for treating grain for smut. One pound of bluestone dissolved in eight gallons of water will serve to moisten about ten bushels of wheat. The wheat should be placed in a pile on the floor, and while one is shovelling it over another should sprinkle it with a watering can, being careful that all the grains are moistened. The wheat should then be spread out to dry before being sown.

Care should be taken to prevent re-contamination from smut that may be about the barn or in old bags. When formalin is used, four and one-half ounces should be diluted with ten gallons of water. The wheat should be steeped in the solution for about fifteen minutes.

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## Ventilation for a Barn.

G.G., Ont. — Please publish a good method of ventilation for a bank barn, the walls of which remain constantly wet during the cold weather?

Ans.—There are several ways of ventilating basement barns. Most farmers agree on the same plan or principle of the intake or fresh air pipe, but some differ as to the proper mode of the outlet pipe or ventilator. To get fresh air into the basement barn lay a six-inch tile under the stable floor having openings in it at different points of the basement. This conduit should run out underground 30 feet or more to a stand-pipe, ten feet high or more; the stand-pipe should have a cowl on it. This will give the stable plenty of fresh air and it will be distributed throughout the basement.

There are several ways of taking out the foul air and steam from the stables. One of the best ways is to have several boxes, made out of inch boards, one foot square and extending from the basement floor up through the barn to ventilators through the roof. Openings should be provided in these at the floor of the basement, and at the ceiling of same with a slide at each opening so that either, or both can be

closed or opened when desired. The only objection to this system is that in very cold weather the steam will freeze at the top of the ventilator and cause it to close up, but taking it the season through it is found a good plan. Another plan is to have the boxes made as described, allowing them to extend no lower than the basement ceiling. There should also be a flue made of boards running through the basement under the barn floor and out through the wall at each end; the outlet pipes are connected to this flue. Farmers who have this mode of ventilation claim that it works well and the flues never freeze up. There is a slide at each end of the flue, so that they can be closed when required.

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## Whitewash.

W. J. T. — An excellent whitewash, which is very durable, is made as follows: Slake half a bushel of lime with boiling water, covering the vessel during the process to keep in the steam. Strain the liquid through a fine sieve, and add 8 quarts of salt previously dissolved in warm water, 2 1-2 pounds of ground rice boiled to a thin paste and stirred in boiling hot, half a pound powdered Spanish whiting, and one pound of clean glue, which has been previously dissolved by soaking it well, and then put the whole mixture in a small kettle within a large one filled with water, and hang over a slow fire. Add five gallons of hot water to the mixture, stir it well, and let it stand for a few days covered from the dust. It should be put on

quite hot, and for this purpose it should be kept in a boiler over a portable furnace. It answers as well as oil paint for wood, brick or stone, and is much cheaper. Colouring matter, with the exception of green, may be added, and the paint made of any desired shade.

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## Measuring Grain in a Bin.

No. 1 Hard Man.—Publish a simple rule and example for finding the number of bushels of grain in a bin.

Ans.—To find the number of bushels of grain in a bin, multiply the length in inches by the breadth in inches, and that again by the depth in inches, and divide the product by 2,150 (the number of cubic inches in a bushel.) Thus a bin of 9 feet long, 4 feet wide and 6 feet deep would hold 173.65 bushels, which is arrived at by multiplying 108 by 72, and the product by 48, which amounts to 373,248 cubic inches; this divided by 2,150 equals 17,365.

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## Potato Scab.

A. S., B.C.—What will prevent scab on potatoes?

Ans.—There are two more or less standard remedies for the prevention of potato scab: (1) Soak uncut seed potatoes in a solution of one ounce of corrosive sublimate in eight gallons of water; (2) soak cut or uncut seed potatoes in a solution of one pound of formalin in fifteen gallons of water. These solutions are about equally effective, and one's choice will depend upon the ease with which they can be

procured. Formalin has the advantage of not being violent poison like the corrosive sublimate.

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## Rats.

Mrs. F. D., Montana.—Can you tell me what kind of potash will drive rats and mice out of the house.

Ans.—The ordinary caustic potash, or even caustic soda which is so generally sold in tins as concentrated lye, if placed in the openings of rat holes, will drive away rats for a long time. It is supposed that by running over these salts which absorb moisture from the air, the rats and mice get the material on their feet, which blisters them and makes them very sore, and they leave for pastures new and more agreeable. With the same idea of rendering their habitations uncomfortable, finely broken glass is sometimes put in rat holes. This cuts their feet and makes them sore. A rather barbarous remedy which is also suggested is to mix freshly made plaster of Paris, with dry food, such as flour, oatmeal, or bread, and put this where the rats can get it. When it is eaten, the plaster sets inside them and kills them. A dish of water is placed near the food, which the animals drink eagerly on account of the thirst which the dry powder induces. The same remedy is also sometimes used for cockroaches in Europe. Good rat traps constantly attended to, will soon clear out rats from a house. After a few have been caught, the others seem to understand that something is wrong and disappear.

## How to Burn Lime.

F. W., Minn.—Please inform me how to build a lime kiln and how long it requires to burn the lime.

Ans. — A cheap lime kiln may be made by digging an excavation near the edge of a bank. The excavation should be round like a cistern, ten or more feet deep, and six or more feet across. It should have an opening at the bottom on one side to be used as a fire hole and for removing the burned lime. If much lime is to be burned, it will pay to line the excavation with brick and place an iron grating across about three or four feet from the bottom beneath which the fire is made. The excavation should be much narrower at the top than at the bottom, so the lime at the sides will all be burned. The kiln should be filled with limestone, and the top should be covered with earth, leaving a hole in the centre for a chimney. When the iron grating is used it should project out in front to the edge of the bank, while under it is used a sheet iron door, to close the furnace and regulate the draft. When the kiln is only temporary an arch of large stones, built without mortar, takes the place of the iron grating, and the sides of the kiln are lined as the rocks are laid in, with large granite stones instead of brick. It will require from five to eight days with a constant, good wood fire to burn the kiln sufficiently.

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## To Find the Horse-Power of Waterfall.

Mac.—To find the horse-power of a waterfall, proceed as follows : Multiply

the area of the cross-section of the water in feet by the velocity in feet per minute, and multiply by 62 1-2. the number of pounds in a cubic foot of water, and this by the vertical fall in feet, and we have the foot-pounds per minute of the fall; dividing by 33,000 gives the horse-power.

Example—A stream flows through a flume ten feet wide, and the depth of the water is four feet; velocity 150 feet per minute. Then multiply ten by four equals forty, and forty multiplied by 150 equals 6,000, the cubic feet of water flowing per minute; then 6,000 multiplied by 62 1-2 equals 375,000 pounds of water per minute. Now suppose the fall be twelve feet, we have 375,000 multiplied by 12 equals 4,-500,000; now divide by 33,000 and we have 133 1-2, the horse-power of the fall.

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## To Destroy Weeds on Gravel Walks.

Rev. W. C., Ont.—How can I get rid of weeds and grass on my gravel walks and drives ?

Ans.—Several formulae are recommended for destroying grass and weeds on gravel walks, such as (1) Carbolic acid, one ounce in a gallon of water; (2) sulphuric acid, one part in thirty of water; (3) arsenite of soda,—1 pound powdered arsenic and two pounds of soda in ten gallons of water, and, better than any of these (4) common salt: a strong brine made of one pound of salt to every gallon of water. This can be poured over the gravel from a watering can and is far better than scattering dry salt, because it leaves very little colour on the walk.

## Cement for China.

C.F.D.—The following formula is given for making the well-known cement of Pompeii, or universal cement: Dissolve eight ounces of sugar in twenty-four ounces of water, in a glass flask on a water bath, and to the thin syrup add two ounces of slaked lime; keep the mixture at a temperature of about 70 to 75 degrees Centigrade (158 to 167 Fahr.), for three days, shaking frequently, then cool and decant the clear liquid. Dilute six and a half ounces of this liquor with as much water, and in the mixture steep sixteen ounces of fine gelatine for three hours, after heating to effect solution. Finally, add to the mixture an ounce and a half of glacial acetic acid and fifteen grains of pure carbolic acid.

One of the strongest and most easily prepared cements for mending china is lime and white of an egg. To use it take a sufficient quantity of the white of egg to mend one article at a time, shave off a quantity of lime and mix thoroughly. Apply quickly to the edges and place firmly together, when the article will soon become set and strong. Mix but a small quantity at a time, as it hardens very soon so that it cannot be used. Calcined plaster of Paris answers as well as lime.

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## Soil for House Plants.

C. M.—What kind of earth is good for house plants ?

Ans.—House plants require a soil rich in plant food, porous enough to allow water to readily run through it and heavy enough to hold all the roots in a healthy condition. A good formula to follow for the majority of such plants is three parts well rotted sod or fibrous loam, one part sharp sand and one part leaf mould or woods dirt. A little well-rotted manure may be added for heavy feeding plants, such as geraniums, etc.

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## Remedy for Potato Blight.

Sub., N. S.—What is the remedy for "potato-blight ?" How much would be required for an acre rotation ? At what stage in the growth of the vines should it be applied ?

Ans.—For potato blight the vines should be sprayed about four times, at intervals of two weeks, commencing when the tops are about one-third grown. The spraying mixture consists of bluestone, six pounds; lime, four pounds; water, forty gallons. To this should be added eight ounces of Paris green in order to destroy the bugs.

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## To Measure Corn in Crib.

W.B., Mass.—This rule will apply to a crib of any kind. Two cubic feet of sound, dry corn in the ear will make a bushel shelled. To get the quantity of shelled corn in a crib of corn in

the ear measure the length, breadth and height of the crib, inside of the rail; multiply the length by the breadth and the product by the height; then divide this product by two, and you have the number of bushels in the crib.

To find the number of bushels of apples, potatoes, etc., in a bin, multiply the length, breadth and thickness together, and this product by 8, and point off one figure in the product for decimals.

To find the amount of hay in a mow, allow 512 cubic feet for a ton, and it will come out very near correct.

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## Dimensions of An Acre.

F. H., Ont.—A square whose sides are 12.649 rods, or 69.57 yards, or 208.71 feet long, contains one acre.

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## Measuring Shingles.

Farmer.—A standard shingle is held to cover a space of sixteen square inches; that is, it is four inches wide, and is laid four inches to the weather. Therefore, it will require nine standard shingles to cover 144 square inches. or one square foot, and 900 shingles to cover one hundred square feet; but as there is always some waste in fitting shingles and a certain number of defective ones, allowance is made for this by adding one hundred shingles and saying that 1000 shingles are sufficient to cover a space of 100 square feet. Usually shingles are put up in bunches of 250, four bunches to the thousand.

## Grafting Wax.

J. B., Ont.—Please publish the formula for making grafting wax.

Ans. — The common formula for grafting wax is as follows: 4 parts rosin, 2 parts beeswax, and 1 part tallow. Linseed oil may be substituted for the tallow. The three constituents are melted together and poured into a pail of cold water, the hands are greased and the "taffy" is pulled. Another form of grafting wax is made by melting 6 parts of rosin with 1 part of beeswax and adding enough wood alcohol to make it plastic—that is, to keep it in a syrupy condition.

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## Hens Eating Eggs.

R. B.—Can you tell me how to cure hens of the vice of eating their eggs, or can you show a good device that will hide the egg from attack ?

Ans.—Egg eating is a vice that is not easily cured. Various plans of curing it have been tried with more or less success. It is claimed to be a good plan to place artificial eggs in the nest and about the house so that the hens may pick at them and get the idea that they are no longer able to break egg shells. It is well when doing this to pare off the points of the fowls' beaks until they are quite tender so that to peck an egg would cause pain. It is also recommended to blow out the contents of a few eggs through a small hole in the shell and fill the space with a paste consisting of mustard, capsicum, aloes or other disagreeable compounds and leave these where the hens will find them. Another plan is to use

darkened nests so arranged that the hens will have to walk along a passage against the wall and back along another passage before they can enter a nest. Perhaps the only safe and sure remedy, apart from doing away with the birds that have contracted the habit of egg-eating, is to use a nest so arranged with a hole in the bottom that when an egg is laid it will roll into a safe receptacle. A handy man may be able to devise such a nest or one of the patented nests that are on the market may be secured.

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## Weight of Ensilage.

G. R. A., Ont.—What would be the weight of a solid chunk of well settled ensilage 11 feet 4 inches high and 12 feet square, also how many tons are contained in a block of ensilage 4 feet 10 inches high by 12 feet square?

Ans.—It is reckoned that 40 cubic feet of settled ensilage weighs one ton. At this calculation, a block of ensilage 11 feet 4 inches high by 12 feet square would weigh 40 4-5 tons; and a block 4 feet 10 inches by 12 feet high, 17 2-5 tons. The following table shows the approximate contents of circular silos:

| Diameter | Height. | Cubic ft. | Tons. |
|---|---|---|---|
| 10 ..... | 20 | 1,455 | 30 |
| 10 ..... | 24 | 1,745 | 43 |
| 12 ..... | 20 | 2,160 | 54 |
| 12 ..... | 24 | 2,532 | 63 |
| 12 ..... | 30 | 3,240 | 80 |
| 16 ..... | 20 | 3,840 | 90 |
| 16 ..... | 24 | 4,608 | 115 |
| 16 ..... | 30 | 5,760 | 144 |

## Pickling Hams.

Mrs. H. B.—A highly recommended method of pickling hams and shoulders preparatory to smoking includes the use of molasses. To four quarts of fine salt and two ounces of pulverized saltpeter, add sufficient molasses to make a pasty mixture. The hams and shoulders having been in a dry, cool place for three or four days after cutting up, are to be covered all over with the mixture, more thickly on the flesh side, and laid skin down for three or four days. In the meantime make a pickle of the following proportions, the quantities here named being for 100 lbs. of meat: coarse salt, 7 lbs.; saltpeter, 2 oz.; potash, half an ounce; soft water, 4 gals. Heat gradually, and as the scum rises remove it. When scum ceases to rise, allow the pickle to cool. When the hams have remained the proper time in the pasty mixture, cover the bottom of a clean, sweet barrel with salt about half an inch deep, pack in the meat as closely as possible, cover it with the pickle, and place over it a follower with weight to keep the meat down. Small hams and shoulders should remain in the pickle for five weeks, larger ones will require six or eight weeks, according to size. They should be allowed to dry well before smoking.

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## Getting Rid of Ants.

E. O., Wis.—What can I do to get rid of ants?

Ans.—The first thing to do in getting rid of ants is to follow some of the insects to their nest or hill and then

destroy the occupants by pouring on boiling water or a small quantity of a liquid drug called bisulphide of carbon. This liquid is very inflammable, and should not be exposed to fire. If the nest cannot be found, many of the insects may be killed by placing in the runs sponges saturated with sweetened vinegar and water. The sponges should be frequently dipped into hot water, which will destroy all the ants contained in them.

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## Capacity of Cistern and Wells.

C. F.—To find the capacity of a circular cistern or well, take the diameter in feet, square this and multiply by .7854 and then multiply by the depth in feet; this gives the number of cubic feet in the well; multiply this by 1,728 and divide by 277, and you will have the number of gallons capacity of the well. If for a square cistern, multiply length by breadth and depth, and proceed to multiply the result by 1,-728 and to divide by 277 as before.

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## Keeping Flies off Cattle.

E. L. R., Ont.—Kindly let me know a cheap, handy and effectual means of keeping flies off cows.

Ans.—While there is probably no cheap, handy and effectual method of keeping all flies off cows in summer, their ravages may be much reduced by applying to the skins of the animals every alternate morning a little of the following mixture: Seal or fish oil and

crude carbolic acid in the proportion of a tablespoonful of carbolic acid to a quart of oil. It is readily applied with a brush. Another preparation that is highly recommended is a mixture of pine tar and lard in the proportion of one part of the former to ten parts of the latter. It is put on with a cloth, and rubbed down the neck, back, chest and loins, where the flies are most troublesome. For a spraying mixture, that may be made at home, there is perhaps nothing better than coal oil emulsion—a mixture of coal oil and soap suds. This has to be applied every day when the flies are bad, as it evaporates in the course of several hours. A good way of applying, a spray is to have a large sprayer stationed beside a stall built of poles, having a door at each end, so that the cows can be quickly sprayed and run through one after another. There are a number of prepared commercial fly repellents on the market that are quite effective and easily applied.

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## Bedbugs.

Eng., Alta.—What is the best means of relief from bedbugs? Is there danger of one carrying them in clothing if the same is well brushed?

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Ans.—If the house can be very tightly closed, it would be well to have it thoroughly fumigated with burning sulphur; the fumes will penetrate all cracks and destroy the insects. It must, however, be carefully and repeatedly done to effect a thorough eradication. A useful wash for the destruction of bedbugs is a solution of corrosive sublimate. This material is deadly poison and must be handled with caution. It does not dissolve readily in water; so it is better, first of all, to dissolve an ounce in half a pint of methylated spirits and then mix this with half a gallon of water. This wash should be applied with a brush wherever the insects are thought to be. Spirits of turpentine applied to cracks and crevices is also good. When bedbugs are in a house there is always more or less danger of their being carried about in clothing unless great care is taken to brush out all seams and folds of the garments in which the insects may hide.

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## To Find Weight of Hay-Stack.

W.B., Man.—To ascertain the weight of an oblong hay stack, take the height from the eaves to the top; multiply length by breadth, and the product by the height, all expressed in feet; divide the amount by 27, to find the cubic yards, which multiply by the number of pounds supposed to be in a cubic yard, viz.: in a stack of new hay, 132 pounds avoirdupois each; if old hay, 154 pounds each.

## Destroying Prairie Dogs.

W. N. B., Neb.—I wish to know the best method of destroying prairie dogs.

Ans.—In certain Western districts, where prairie dogs are a great nuisance, farmers kill them with two tablespoonfuls of carbon bisulphide placed upon some absorbent material, as cotton, dry horse manure, or pieces of corn-cob,and rolled down the prairie dog burrows. It is best immediately to cover the hole with a sod and stamp down firmly. It is found by experiment that four parts of gasoline mixed with one part of carbon bisulphide is about as effective as the carbon bisulphide alone, and not nearly as expensive. The mixture is used in the same manner as carbon bisulphide alone, but about twice the quantity of the mixture should be used.

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## What a Horse Can Drag.

P.S.M.—A modern compilation of engineering maxims states that a horse can drag, as compared with what he can carry on his back, in the following proportions: On the worst earthen road, three times more; on a good macadamized road, nine; on plank, twenty-five; on a stone trackway, thirty-three, and on a good railway, fifty-four times as much.

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## Treatment for Hog Lice.

C. W. H., N. S.—Please let me know how to get rid of lice on my hogs ?

Ans.—One of the best insecticides for hog lice is crude petroleum oil, which, if applied with a brush or cloth over the body of the infested hog will kill all the lice as well as destroy the eggs, and will do the skin of the hog no harm. If crude petroleum cannot be easily procured, a mixture of equal parts coal oil and melted lard will do as well. Some hog raisers use only ordinary machine oil, and find it satisfactory. Whatever is used it should be applied to the entire surface of the animal, and to make the remedy doubly sure a second application should be made in the course of a week or ten days. Besides treating the animals, the floors of the pens should be thoroughly cleaned. All old bedding and dust should be cleaned out and sprinkled with lime, and the floor should be dusted with lime alsc.

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## Pea Weevil or "Pea-Bug."

D. R.—How can I get rid of the bugs in seed peas and prevent them from coming in the new crop?

Ans.—The most convenient way to treat peas which are found to be infested with living weevils is to put them in a tight coal oil barrel, which will hold five bushels, or about 300 lbs. of seed at a time. Place on the top a flat pan and pour into this three ounces of bisulphide of carbon, or sprinkle the liquid directly on

the surface of the seed, then cover the barrel quickly and keep it tightly closed for two days. As bisulphide of carbon is very inflammable the barrel should be kept in an outside shed, that no accidents may occur. No light of any kind should be brought near it. The seed will not be injured in any way either for planting or for feeding if required. The gas which is formed by the exposure of the bisulphide of carbon to the air is very destructive to all insect life and every insect in the peas will be killed by this treatment. If you cannot obtain bisulphide of carbon put your seed on a barn floor or in a waggon box and sprinkle a little coal oil over it, and turn the seed every day for three or four days so that every pea gets a light coating of the coal oil, half a gallon of coal oil will treat five bushels of peas, or less will answer if they are thoroughly shovelled over. If you are living in a district where this insect occurs regularly nothing will prevent your peas from being infested unless you can persuade your neighbours either to treat their own seed or insist on their seedsman suplying them with seed which has been treated. Peas which have been injured by the pea weevil are almost useless for seed and for this reason farmers should demand from seedsmen seed which is worth the money paid for them and the trouble of sowing. If any farmer doubts the statement as to the small value of peas which have been infested by the pea weevil, let him pick out one hundred seeds and plant them separately and then observe the results.

## To Renovate Oilcloth.

M. S.—Restoring the polish to oilcloth that has lost its lustre can be done in the following way: Wash with a soft woollen cloth and lukewarm or cold water, dry thoroughly with a soft cloth, and then polish with milk, or a weak solution of beeswax in turpentine. Never use a brush, or hot water, or soap, as these tend to take off the paint. Another preparation that is sometimes used is 2½ pounds of paraffin wax, dissolved in one gallon of oil of turpentine by the aid of gentle heat. This is applied while warm with a sponge or piece of flannel, and allowed to remain on the cloth for twenty-four hours, after which the oilcloth is polished with flannel. This solution not only renovates but preserves the cloth.

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## Distinguishing Sex in Geese.

Eng., N. W. T.—I have a pair of Toulouse geese about six months old, and I would like to learn how to tell the goose from the gander.

Ans.—The gander is usually a larger and more aggressive bird than the goose. The goose is deeper in body, thinner in neck and smaller in head. The call of the gander is shrill and loud, that of the goose more of a grunt. In the breeding season the gander protects the goose if she is sitting on eggs. It is a good plan to separate the geese by driving one on each side of a fence or building and you may distinguish the gander by his call. Never look for a curled tail feather as in ducks.

## Pasture for Pigs.

R. J. B., N. B.—Is there any crop that can be planted about the end of April, that will make good pig pasture by the first of July ?

Ans.—A mixture of vetches and peas is about the best crop to sow for summer pasture for hogs. A bushel of vetches and a bushel and a half of peas per acre should produce a good stand of crop that hogs would relish and thrive upon early in July. A plot of rape should be ready to turn on when the peas and vetches are done.

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## Staining a Floor.

A. M. G., Man.—Please tell me whether it is better to paint or stain an edge grain, fir floor. How should stain be applied?

Ans.—Provided the floor is smooth and clean, staining is preferable to painting, as the stain soaks into the wood and thus wears well and is very attractive. A very satisfactory staining material is a weak solution of permanganate of potash. This when first applied produces a wine colour, but on exposure to the air quickly oxidizes, becoming a rich oak shade. In preparing the stain the permangante of potash should be dissolved in water and diluted, and a little of it applied with a brush to a piece of smooth board of the same material as the floor; this should be allowed to stand exposed to the air for half an hour; if the colour is too dark the stain must be further diluted with water until the

desired shade is produced. The floor should be made very clean and dry, soiled places being sandpapered. One application of the stain should be given, and when thoroughly dry, one or two coats of good varnish should be put on. This will protect the stain, leaving a beautiful surface in which the natural grain of the wood may be seen.

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## Cattle Lice.

G. W. G., N. B.—I have a cow completely covered with brown lice. I send you a few of these. Kindly tell me what kind of lice they are and how to get rid of them.

Ans.—There are two kinds of lice which live on the skin of cattle and suck their blood; they affect especially animals that are weak or diseased. One species, the long-nosed cattle louse, is found especially on younger animals and is rather more than one-tenth of an inch in length. The other, the short-nosed cattle louse, is somewhat shorter. It is the kind sent by G. W. G. This latter parasite is especially troublesome on the neck and shoulders of the infested animals, and these parts are frequently worn bare of hair by efforts to dislodge the irritating intruder. When in large numbers cattle lice are not easily overcome; but it is worth while to make a persevering effort to get rid of them, for they can become a source of great loss to the farmer. Various substances are used to destroy them. A convenient mixture is kerosene emulsion, which may be sprayed over the cattle and then rubbed well in with the hand or with

a mop or brush; the cattle should then be kept under cover until they are dry again. Another mixture which has been used with great satisfaction is ordinary black oil with about one-quarter of a pound of powdered sulphur to the gallon of oil. A small quantity of this rubbed on occasionally will free the animals of lice. The cattle stalls should also be thoroughly treated with kerosene emulsion or simply with kerosene (coal oil), so as to destroy all lice hidden in the cracks of the woodwork and of the walls.

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## Cider Vinegar.

A. D. H., Mass.—I have some apple cider one year old that is not good to drink. How can it be made into vinegar?

Ans.—Put some of the cider in a clean cask and add to it some vinegar containing abundance of mother of vinegar, and set it in a warm place. After some days if fermentation has taken place and the souring is going on, add another portion of the cider and at similar intervals a third and a fourth. The cask should never be but partly full; good exposure to the air is necessary, and the temperature should be kept up to 96 degrees Fahr.

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## Cement for Iron.

C.—Glycerine and litharge, stirred to a paste, harden rapidly, and make a suitable cement for iron upon iron, for two stone surfaces, and especially for fastening iron in stone. This cement is insoluble, and is not acted upon by strong acids.

## Sweating of Stovepipe.

J. E. D.—The dark coloured liquid that drips from the joints of a stovepipe when the fire is started is the tar, etc., contained in the wood. The heat not being strong enough to consume these matters, they are distilled off in the form of smoke, and in coming in contact with the cold stovepipe are condensed into liquid form. The operation altogether is very much like what goes on in a regular still. The trouble is often due to the stovepipe being too long or to its having too many elbows. When this is the case the remedy is to alter the position of the stove, so that the pipe is shorter and straighter. A subscriber who had considerable trouble in this direction, some time ago, described how he overcame it, and as the remedy is a very simple one and apparently very satisfactory, it is well worth trying. Our correspondent wrote: "I have had trouble in this direction, and I thought I would let you know how to overcome it. I bought an air-tight heater in the fall, and was greatly pleased the first night at the even heat that was kept up all night, but when I got up in the

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morning such a mess there was. Fully ten feet of the floor was a mess of tar. What to do I did not know. I tried jamming the pipes tighter together, but that did not work; then I tried to turn them around so as to drain it back into the stove or heater. I may say that the pipes run from the heater to the cook stove, twelve lengths of pipe and two elbows, and one T-pipe from the cook stove outside. In turning the pipes around I got on all right from roof to cook stove, then the T-pipe would not work, so I took it to the tinsmith to fix. He told me he could stop the leaking without changing the pipes, and sure enough he did. He took a length of stovepipe and cut a hole in it six inches deep and five inches wide; then he took another length, cut it down to nine inches long, cut a hole in it the same size as the first, made the second stove length large enough to go over the first, and put a handle on it (mine has one handle, but it would be better with two). He put two flanges in the first pipe to keep the outside one from sliding up or down. The whole thing is simple enough when you look at it, but it is an effective cure for the trouble complained of. When you shut off the draught the smoke condenses in the stovepipe, and tar leaking all over the floor is the result. When your pipes are provided with this arrangement, all you have to do when the draught is shut is to slide the outside pipe round till you can see it. By doing so you make a draught above the fire, sending the smoke out or up the chimney before it has time to condense."

## Clothes Moths.

R. S.—What is the best way to protect woollens and furs from moths?

Ans. — The small creamy-yellow clothes moth which lays the eggs from which hatch the small, but destructive caterpillars which injure woollen goods, furs, carpets, etc., begin to fly in spring, and as soon as these appear it is unsafe to put away articles of winter clothing unless some special precaution is taken that the eggs are not also packed away with them. If there is any chance of this it will be well to beat the clothes thoroughly, and then pack them away in such a manner that they can be examined and again beaten about a month later. If no moths have been seen flying in the house before packing away the goods, they may at once be tied up closely for the summer. Putting some camphor or naphthaline, often called "moth camphor," among the clothes, has the effect of preventing moth from trying to lay their eggs on the parcels. The chief thing, however, is to pack things away early in the spring before the moths appear. For killing moths or their caterpillars there is nothing better than benzine, the vapour of which is destructive to these pests. Any article which is infested with them, or in which they have laid their eggs should be sprayed with benzine, or it may be placed in a tight receptacle along with a saucer containing some of the liquid. It is very volatile and soon evaporates and fills the receptacle with its vapour. Care must be taken in handling benzine that no light is

brought near it, or into the room where it has been evaporated until the smell has entirely disappeared, otherwise an explosion is liable to occur.

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## Paper-hanging.

A. T.—To prepare the walls of a room for papering, first give them a coat of weak size. An excellent paste for paper-hanging is made as follows: Put a couple of pounds of fine flour in a pail and add cold water gradually till it forms a thick paste, stirring well all the while. Add about a dessert spoonful of finely powdered alum to prevent the paste becoming mouldy, and then pour in gradually with constant stirring about six quarts of boiling water , or sufficient to bring the paste to a proper consistency. This is fit for use when cold.

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## Destroying Twitch Grass.

R. K.. Ont.—The best way to eradicate Twitch Couch or Skutch grass is to plough as shallow as four inches in hot weather; then, after two or three days. harrow well. This will drag out the underground rootstocks, which will soon dry up. The land may then be used for a crop of late roots, or it may be sown with buckwheat or with Hungarian millet. Buckwheat alone will not smother out the grass, and after the treatment advised above, it would be well to sow the following year a root or some other hoed crop. The part of the treatment which is of most value is the shallow ploughing, so that the rootstocks may be thrown

up to the surface. It is readily understood that this weed not rooting deeply, the land must not be ploughed deeply, or else the rootstocks will be replanted, and more harm than good will be done.

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## Preservation of Eggs.

H. R. S. Ont.—Please describe the usual method of preserving eggs in lime water.

Ans.—When preserved on a large scale, eggs are usually stored in cement tanks in the basement of a stone or brick building. When done in a small way for family use, a half barrel or large crock is usually used as a receptacle. The method of preparing the lime water is simply to slack about one pound of lime with water and then stir the milk of lime so formed into the five gallons of water. After the mixture has been kept well stirred for a few hours it is allowed to settle. The supernatant liquid, which is now "saturated" lime-water, is drawn or poured off to cover the eggs, previously placed in the tank, crock or barrel.

As exposure to the air tends to precipitate the lime, and thus weaken the solution, the vessel containing the eggs should be kept covered. The air may be excluded by a covering of sweet oil or with sacking upon which a paste of lime is spread. If, after a time, there is any noticeable precipitation of lime, the lime-water may be drawn or siphoned off and replaced with a further quantity of newly prepared.

The following points should receive attention :

1—That perfectly fresh eggs only be used. Put them from day to day, as collected, into the lime water.

2—That the eggs, throughout the whole period of preservation, should be completely immersed.

3—That a low temperature is desirable towards arresting or checking that "stale" flavour so characteristic of packed eggs. A cellar with a temperature of 40 deg. F. to 45 deg. F., has been found satisfactory.

The eggs are much improved in appearance if dipped into a solution of muriatic acid as they are removed from the lime water. The exact strength of the muriatic acid solution is not a matter of any great moment, but, of course, the stronger the solution the less time must the eggs be allowed to remain in the acid. Solutions of 2 per cent. and 5 per cent. have both been found satisfactory.

An egg preserving material which has come into very general favour for small quantities of eggs, is a solution of water, glass or silicate of sodium which is for sale at any drug store, in a semi-fluid condition. This is mixed with twenty parts water, and poured over the eggs until the top layer is covered. The eggs are left in this solution until they are required for use.

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